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Jyoti Mazumder

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GIFFORD, KRASS, SPRINKLE, ANDERSON & CITKOWSKI, P.C

PO BOX 7021

TROY, MI 48007-7021

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KOSOWSKI, ALEXANDER J

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JYOTI MAZUMDER, DWIGHT MORGAN,  
and TIMOTHY W. SKSZEK

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Appeal 2008-0847  
Application 09/916,976<sup>1</sup>  
Technology Center 2100

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Decided: September 9, 2008

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*Before* LANCE LEONARD BARRY, JAY P. LUCAS, and STEPHEN C.  
SIU, *Administrative Patent Judges*.

LUCAS, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> Application filed July 27, 2001. Appellants claim the benefit under 35 U.S.C. § 119 of provisional application 60/221,249, filed 7/27/00. The real party in interest is P.O.M. Group of Michigan.

## STATEMENT OF CASE

Appellants appeal from a final rejection of claims 1 and 3 to 8 under authority of 35 U.S.C. § 134. The Board of Patent Appeals and Interferences (BPAI) has jurisdiction under 35 U.S.C. § 6(b). Claim 2 is cancelled.

Appellants' invention relates to a method for manufacturing biomedical implants, such as hip joints, using computer-aided-design (CAD) techniques combined with a direct metal deposition (DMD) process. In the words of the Appellants:

In the preferred embodiment, the DMD fabrication process is interfaced directly to digital data derived through CAT scans, MRI or X-ray topography. A computer-aided design (CAD) file is then constructed in accordance with the digital data, and a tool path is generated as a function of the CAD file. The desired implant, or a portion thereof (such as just the outer surface) may then be fabricated by depositing material increments along the tool path using direct metal deposition (DMD). The process may be used for both solid and scaffold structure suitable to bone ingrowth or ongrowth.

(Spec., 4).

Claim 1 is exemplary:

1. A method of fabricating at least a portion of a biomedical implant, comprising the steps of:

receiving digital data indicative of patient physiology:

constructing a computer-aided design (CAD) file in accordance with the digital data;

generating a tool path;

fabricating the implant or portion thereof by depositing material increments along the tool path using a closed-loop direct metal deposition (DMD) process of the type wherein a laser beam is focused onto a workpiece to create a melt pool into which powder is injected: and

wherein the size of the increments are controlled through optical monitoring.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Koch	US 6,122,564	Sep. 19, 2000
Bradbury	US 2002/0007294 A1	Jan. 17, 2002 (filed Apr. 5, 2001)
Jang	US 6,405,095 B1	Jun. 11, 2002 (filed May 25, 1999)

## REJECTIONS

Claims 1 and 3 to 8 stand rejected under 35 U.S.C. § 103(a) for being obvious over Jang in view of Bradbury and further in view of Koch.

Groups of Claims:

Claims 3 to 8 stand or fall with claim 1 (App. Br., 2, middle).

Appellants contend that the claimed subject matter is not rendered obvious by Jang in combination with Bradbury and Koch, for failure of the

references to be properly combined for a rejection. The Examiner contends that each of the claims is properly rejected.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the Brief and the Answer for their respective details. Only those arguments actually made by Appellants have been considered in this opinion. Arguments which Appellants could have made but chose not to make in the Brief have not been considered and are deemed to be waived.

We affirm the rejection.

#### ISSUE

The issue is whether Appellants have shown that the Examiner erred in rejecting the claims under 35 U.S.C. § 103(a). The issue turns on whether there is a legally sufficient justification for combining the disclosures of Jang, Bradbury, and Koch.

#### FINDINGS OF FACT

The record supports the following findings of fact (FF) by a preponderance of the evidence.

1. Appellants have invented a method of fabricating biomedical implants and prosthetic devices using DMD fabrication using information directly received from a CAD file. (Spec., 4, l. 6). The CAD file receives its digital information concerning the construction of the implant from CAT scan, MRI or X-ray topography data. (*Id.*) A closed loop DMD process

is used wherein optical monitoring of the shape of the implant under construction is used to adjust the fabrication and keep it within tolerances. (Spec., 5, l. 16).

2. The reference Jang teaches the fabrication of objects of various types by CAD techniques (Col. 14, l. 66) using information indicative of patient physiology (Col. 15, l. 7), generating a tool path (Col. 16, l. 8) and thereby fabricating the object by DMD using a laser beam (Col. 6, l. 3) focused on the melt pool (Col. 5, l. 63).
3. The reference Koch teaches a laser based DMD technique (Col. 3, l. 53) in which the laser clad molten pool is shown to be monitored optically. (Col. 5, l. 58).
4. The reference Bradbury teaches the fabrication of customized biomedical implants from CAD data (¶[0022]) using patient physiology (¶[0016, 0019]).

#### PRINCIPLES OF LAW

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. See *In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary

indicia of nonobviousness.”) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

References within the statutory terms of 35 U.S.C. § 103 qualify as prior art for an obviousness determination only when analogous to the claimed invention. *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992). Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986); see also *In re Wood*, 599 F.2d 1032, 1036 (CCPA 1979) and *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). Furthermore,

‘there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness’ . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

*KSR Int’l v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

## ANALYSIS

From our review of the administrative record, we find that Examiner has presented a prima facie case for the rejections of Appellants’ claims under 35 U.S.C. § 103(a). The prima facie case is presented on pages 3 to 6

of the Examiner's Answer. In opposition, Appellants present the following argument.

*Arguments with respect to the rejection  
under 35 U.S.C. § 103(a)*

Appellants contend that the Examiner erred in rejecting claims 1 and 3 to 8 as the benefit which the Examiner cites for the combination of Bradbury's teachings with that of Jang are quoted from, and only refer to, the benefits that Bradbury has over his prior art. (App. Br., 2, bottom). Appellants further argue that there is no evidence in the record for the Examiner's cited benefits of combining the teachings of Jang with Bradbury. (App. Br., 3, top).

The Examiner responds to the specific charges of the Appellants in his Answer.

The issue before us is whether the combination of references is appropriate for a rejection under 35 U.S.C. § 103(a). The issue is not the alleged benefits of the combination, or whether those benefits can be established from the prior art, but rather whether the teachings of Jang, Bradbury, and Koch are properly combinable to establish the level of the prior art, and whether the claims would have been obvious over that prior art by one of ordinary skill in that art at the time of the invention. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17. "What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103." *KSR Int'l Co. v. Teleflex, Inc.* (cited above).



Are the references properly combinable? Certainly, they all refer to the same field of endeavor, namely the fabrication of objects using CAD technology and DMD construction techniques. (See FF #2, #3, and #4 above, and *In re Clay*, cited above.) The references do address different problems in that field but that does not disqualify them as combinable references: “It is common sense that familiar items may have obvious uses beyond their primary purposes, and a person of ordinary skill often will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *KSR Int’l Co. v. Teleflex, Inc.* (cited above).

The issue of whether the combination teaches all of the claimed elements has not been questioned by the Appellants. In the only issue before us, namely the proper combination of the references, we find no error in the Examiner’s rejection.

#### CONCLUSION OF LAW

Based on the findings of facts and analysis above, we conclude that the Examiner did not err in rejecting claims 1 and 3 to 8.

#### DECISION

The Examiner's rejection of claims 1 and 3 to 8 is Affirmed.

Appeal 2008-0847  
Application 09/916,976

No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

rwk

GIFFORD, KRASS, SPRINKLE, ANDERSON  
& CITKOWSKI, P.C  
PO BOX 7021  
TROY MI 48007-7021